

THE SPARK GAP

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Rockin' Rollin' & Radioin'

by Bill Osler, KØRGR
January 13, 2004

In light of last week's earth-shaking events in California, I thought it would be appropriate try to generate some interest in performing basic research into a radio phenomenon that might be of great benefit to society in general.

My father, W6VPV, was a very dedicated ham. Dad would come home from work every night, and as soon as dinner was over, he'd disappear into the 'radio room', not to be seen again until the next day. Dad was primarily a CW man, and he spent the vast majority of his time tuning the lower HF bands, just looking for interesting signals.

Dad would often call my brother and me into the radio room of our house in San Jose, to listen to signals he'd found. In early 1971, he called us into the shack one evening to hear something strange.

Dad pointed out that all of the signals from Southern California had a warbling 'echo' - multipath distortion. These signals all sounded like Europeans coming over the North Pole at night - watery with ringing. This was very odd - I'd never heard anything like that before on LA-area signals . Dad made a special note of it in his logbook. We heard this warbling on all bands from 160 through 20 meters, as I recall.

The following morning, we all sat around the breakfast table, and someone turned on the TV. We were greeted with the news of the terrible Sylmar earthquake, that happened only a short while earlier! At this point Dad told us the rest of his story.

In years of listening on HF, Dad had heard similar things before. He heard it on signals from Alaska in 1964 the night before the giant Good Friday quake. He had heard it on signals from Central America prior to a major quake down there.

We all thought Dad should pursue this, and report it to the authorities. But, at that time, Dad's work required a very high level security clearance, so the last thing he would ever do was to call attention to himself. As far as we know, he never pursued it.

I've put this up on various bulletin boards and Internet discussion groups in the past, and I've received some interesting responses. I got lots of reports about 'ringing' radio signals immediately prior to and during the Loma Prieta earthquake years ago. There are stories on the net about research done by the Chinese and others into low-frequency radio signals that seem to be precursors to some large quakes. Perhaps these low-frequency signals somehow influence the way that the HF signals are propagated, resulting in multipath distortion.

Here are some interesting URL's about research into radio earthquake 'precursors':

<http://www.riken.go.jp/lab-www/library/publication/review/html/No19/19-64/19-64.html>

<http://www.copernicus.org/EGS/nhess/1/nh1/99.pdf>

Note that the second article, above, discusses signals observed at a number of different frequencies, including "initial observations at 18Mhz."

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I've always thought that hams would have the unique ability to monitor for this phenomenon. We are the only ones with diverse HF stations spread throughout the areas where earthquakes are common.

I'd like to see this pursued as scientifically as possible. I am not interested in wasting my time or anyone else's on another "In Search Of..." episode. But if we can put together just a little real documentation, I have no problem with taking this to the authorities or the academic community. But I need more than 35-year old memories!

What can you do? Be active and listen a lot. Listen for signals from earthquake prone areas. Make notes of any signals with multi-path distortion on them - they will have a 'ringing' or echo effect. Then, check the news the next day to see if there were any quakes in the area of the signals you monitored. There are a number of websites that show the locations of recent earthquakes.

If you think you have observed this, please email me! I will act as a collecting point for these reports. The reason I started to write this article is because I was listening a week ago last Sunday to 80-meter signals, trying to record some for an upcoming radio class. I was listening to a strong signal with a W6 call sign, and I noticed a weak, but very noticeable 'echo' on the signal, that reminded me of this.

I was very surprised the next day, when the big earthquake struck Central California! I suspect this means that the phenomenon can be observed even from a great distance away.
If your spouse gives you grief about spending so much time on the air, just explain that you are monitoring for earthquakes!

** If you have not checked into the web site "e-ham" please do so. Lots of good articles and forums concerning amateur radio. The address is: <http://www.e-ham.net>

..... Bob N9SIU

SUPPER CLUB

1-8-04 WE HAVE CHANGED TO BOB EVAN'S IN MEIJER'S PARKING LOT. WE ARE NOT GOING TO BE AT THE SUNSHINE CAFE 6:PM

1-15-04 EL-NINO MEXICAN 2797 N. MORTON (US. 31 SOUTH) FRANKLIN INN. 6:PM

1-22-04 MCL-CAFETERIA TARGET MALL SUMNER & SOUTHEAST ST. INDIANAPOLIS IN. 6:PM

1-29-04 GRAY'S MOORRESVILLE IN. 1-MI WEST OF ST. RD 67 & ST. RD. 144 6:PM

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START THINKING FIELD DAY !

JUNE 26 – 27, 2004

This Hobby Sure is Changing...

by [Doug Grant, K1DG](#)

I was testing out a new 70 cm beam the other day, and tuning around the repeater segment for a loud signal so I could check the beam's pattern. I came across a big loud signal, but instead of the usual FM chatter, I was surprised to hear what sounded like a station tuning across an HF phone band, with SSB signals coming into then passing out of the passband. Obviously this apparently local repeater had a link to an HF rig somewhere. After a bit of listening, I guessed that the repeater's HF rig was on 20-meters, so I fired up my HF rig, and tuned around until I heard the same QSO on 20 that I was hearing on 70 cm. Not sure where the repeater's HF rig was located, I turned on my amplifier and called over the QSO in progress "Who is listening to this QSO on 70 cm in New Hampshire?" A somewhat surprised KD6LFW, who was mobile in Nashua, NH, answered me on the repeater. I suggested he QSY the HF rig to a clear frequency so we could talk.

I heard the repeater voice synthesizer report "Q-S-Y -- Fourteen Point Two Six Zero Point Zero." So I dialed 14.260 on my HF rig and called KD6LFW. It turns out the repeater is only about 5 miles from me, and its Icom IC-706 was hearing me fine on 20M...and hearing my 70 cm rig as well. So I alternated talking on HF and 70 cm for the QSO. When I talked on 20-meters, I heard myself coming back on 70cm. When I talked on 70 cm, I heard myself on 20-meters. KD6LFW had recently upgraded to General, and I was his first QSO on HF. Well...sort of anyway. I wonder how LoTW wants me to enter THAT one?

This was my first encounter with an HF-linked repeater...I'm sure others have worked through them, and through the Internet-linked machines as well. Last week I heard an OK2 on 50.125 getting a bunch of the locals all excited, until he announced he was using the W7DXX Internet remote base in Boston. Which got me thinking...how do we figure out where people are these days when we hear them on the air? Where do I point my beam when I hear W4AN on the air (Bill sometimes operates through a remote station in Washington state, and sometimes from his own home station in Georgia)?

And in the next contest, can I use one of these things to extend the band openings? I'll operate on 15-meters with my own station in the morning and work a bunch of Europeans, then when the band closes here in NH, I'll log in to a remote station in W6 or W7 and run JAs for a few more hours. Or maybe I'll log in to one in KH6 to keep the run going. Or KH0. And I suppose I could create some real excitement in Japan by logging into a remote base there and getting on 80 or 160-meters.

This hobby sure is changing...

73

Doug K1DG



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Mid-State Amateur Radio Club meets at 0800 EST the third Saturday of each month at the Johnson County Law Enforcement Center in the Emergency Operations Center. All hams are encouraged to attend this meeting and VE testing is held January through November after the meeting has ended.

MARC operates the 146.835 MHz (151.4 PL) repeater and all hams are welcome to use it.

For more information please visit our club web page at: <http://www.midstatehams.org>



